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File: JPAB

Jan 28, 2000

PUB-NO: JP02000031397A
DOCUMENT-IDENTIFIER: JP 2000031397 A
TITLE: SEMICONDUCTOR DEVICE

PUBN-DATE: January 28, 2000

INVENTOR-INFORMATION:

NAME

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APPL-NO: JP10196112

APPL-DATE: July 10, 1998

INT-CL (IPC): H01 L 27/10; H01 H 59/00

ABSTRACT:

PROBLEM TO BE SOLVED: To sufficiently lower resistance of a movable thin film part in an MEMS element, reduce irregularity of the resistance, improve reliability of wiring using the MEMS element, and facilitate integration with a semiconductor integrated circuit.

SOLUTION: A semiconductor device using an MEMS element is provided with a conducting region (lower electrode) 9 formed on the main surface of an Si substrate 7, a conducting film (intermediate electrode) 8 separately counter posed to the lower electrode 9, both end portions of which film are fixed on the substrate 7 via an insulating film 6, and central part of which film is capable of displacement, an insulating film 10 buried and formed in a hole which is formed in the conducting film 8 and penetrates it in the direction vertical to the substrate main surface, and a conducting film (upper electrode) 1 which is fixed on the substrate 7 via an insulating film 2 and counter posed on the side opposite to the lower electrode 9 with respect to the intermediate electrode 8. The distances between a displacement part of the intermediate electrode 8 and the lower electrode 9 and the upper electrode 1 are changed by potentials of the intermediate electrode 8 to the lower electrode 9 and the upper electrode 1.

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1	23221	((micro adj electro adj mechanical adj system) or mems)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/04/25 08:53
2	1857	((micro adj electro adj mechanical adj system) or mems)) and ((passivation or dielectric or insulat\$3) adj (layer or film))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/04/25 08:54
3	1126	((micro adj electro adj mechanical adj system) or mems)) and ((passivation or dielectric or insulat\$3) adj (layer or film))) and (hole or recess or groove or protuberance or void)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/04/25 08:56
4	152	((micro adj electro adj mechanical adj system) or mems)) and ((passivation or dielectric or insulat\$3) adj (layer or film))) and (hole or recess or groove or protuberance or void)) and stiction	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/04/25 08:57

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<u>L1</u>	((micro adj electro adj mechanical adj system) or (micro adj electromechanical) or mems)	1753	<u>L1</u>

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